Claims:

1. Heat, flame, and electric arc resistant fabric (1) for use as single or outer layer of protective garments, characterized in that it comprises at least two separate single plies (2,3) each comprising a warp and a weft system, the at least two separate single plies (2,3) being assembled together at predefined positions so as to build closed, adjacent pockets having a side(S1) and a side (S2), the warp and the weft systems of the at least two separate single plies (2,3) being based on materials independently chosen from the group consisting of aramid fibers and filaments, polybenzimidazol fibers and filaments, polyamidimid fibers and filaments, poly (paraphephenylene benzobisaxazole) fibers and filaments, phenol- formaldehyde fibers and filaments, melamine fibers and filaments, natural fibers and filaments, synthetic fibers and filaments, artificial fibers and filaments, glass fibers and filaments, carbon fibers and filaments, metal fibers and filaments, and composites thereof.

2. The fabric (1) according to claim 1, wherein the warp and weft systems of the at least two separate single plies (2,3) are, independently to each other, based on monofilament yarns, multifilament yarns, spun yarns and core spun yarns.

3. The fabric (1) according to claim 1 or 2, wherein the warp and weft systems of the at least two separate single plies (2,3) are, independently to each other, single yarns, twisted yarns and hybrid yarns.

4. The fabric (1) according to claim 3, wherein the warp and weft systems of the at least two single plies (2,3) comprise, independently to each other, single and twisted yarns comprising aramid fibers, aramid monofilaments, aramid multifilaments or composite fibers of aramid and polybenzimidazol.

5. The fabric (1) according to claim 3 or 4, wherein the warp systems of the at least two single plies (2,3) comprise, independently to each other, single and twisted yarns comprising aramid monofilaments or aramid multifilaments, and the weft systems comprise, independently to each other and in an alternate sequence, single or twisted yarns of aramid monofilaments or single or twisted yarns of aramid multifilaments.

6. The fabric (1) according to claim 5, wherein the weft systems of the at least two single plies (2,3) comprise, independently to each other and in an alternate sequence, at least two different single and twisted yarns of aramid filaments.

7. The fabric (1) according to any preceding claim consisting of two separate single plies (2,3).

8. The fabric (1) according to claim 7, wherein the two separate single plies (2,3) comprise aramid fibers chosen from the group consisting of poly-m-phenylenisophtalamid, poly-p-phenylenterephtalamid and mixtures thereof.

9. The fabric (1) according to claim 8, wherein one of the two single plies is entirely made of poly-p-phenylenterephtalamid.

10. The fabric (1) according to any claim 7 to 9, wherein the two separate single plies (2,3) are made of the same material.

11. The fabric (1) according to any claim 7 to 9, wherein each separate single ply (2,3) is made of a material having a different dimensional thermal shrinkage.

12. The fabric (1) according to any claim 7 to 11, wherein the two separate single plies (2,3) are woven together in such a way that they

cross each other at the predefined positions so that the same side (S1 or S2) of two adjacent pockets is alternately made of the two different separate single plies (2,3).

13. The fabric (1) according to any one of claims 1 to 12, wherein the closed, adjacent pockets are square shaped.

14. The fabric (1) according to any preceding claim, wherein each side of the pockets is between 5 and 50 mm.

15. The fabric (1) according to claim 14, wherein each side of the pockets is between 8 and 32 mm.

16. The fabric (1) according to any preceding claim, having a specific weight between 100 g/m^2 and 900 g/m^2.

17. The fabric (1) according to claim 16, having a specific weight between 170 and 320 g/m^2.

18. The fabric (1) according to any preceding claim, wherein filling yarns are positioned between the at least two separate single plies (2,3).

19. Garment for protection against heat, flames and electric arc comprising a structure made of at least one layer of a fabric (1) according to any one of claims 1 to 18 [19].

20. The garment according to claim 19, comprising an internal layer, optionally an intermediate layer made of a breathing waterproof material, and an outer layer made of the fabric according to any claim 1 to 18.

21. The garment according to claim 19 or 20, wherein the fabric (1) is made of two separate single plies (2,3), the former being positioned

internally and the latter externally in the structure of the garment, the dimensional thermal shrinkage of the internally positioned separate single ply being lower than that of the externally positioned separate single ply.

22. The garment according to claim 21 wherein the two separate single plies comprise poly-p-phenylenterephtalamid, the internally positioned ply comprising at least the same amount of poly-p-phenylenterephtalamid as the externally positioned ply.

23. The garment according to claim 22 wherein the internally positioned ply is entirely made of poly-p-phenylenterephtalamid.

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Amended claims (changes shown)

1. Heat, flame, and electric arc resistant fabric (1) for use as single or outer layer of protective garments, characterized in that it comprises at least two separate single plies (2,3) each comprising a warp and a weft system, the at least two separate single plies (2,3) being assembled together at predefined positions so as to build closed, adjacent pockets having a side(S1) and a side (S2), the warp and the weft systems of the at least two separate single plies (2,3) being based on materials independently chosen from the group consisting of aramid fibers and filaments, polybenzimidazol fibers and filaments, polyamidimid fibers and filaments, poly (paraphephenylene benzobisaxazole) fibers and filaments, phenol- formaldehyde fibers and filaments, melamine fibers and filaments, natural fibers and filaments, synthetic fibers and filaments, artificial fibers and filaments, glass fibers and filaments, carbon fibers and filaments, metal fibers and filaments, and composites thereof.

2. The fabric (1) according to claim 1, wherein the warp and weft systems of the at least two separate single plies (2,3) are, independently to each other, based on monofilament yarns, multifilament yarns, spun yarns and core spun yarns.

3. The fabric (1) according to claim 1 or 2, wherein the warp and weft systems of the at least two separate single plies (2,3) are, independently to each other, single yarns, twisted yarns and hybrid yarns.

4. The fabric (1) according to claim 3, wherein the warp and weft systems of the at least two single plies (2,3) comprise, independently to each other, single and twisted yarns comprising aramid fibers, aramid monofilaments, aramid multifilaments or composite fibers of aramid and polybenzimidazol.

5. The fabric (1) according to claim 3 or 4, wherein the warp systems of the at least two single plies (2,3) comprise, independently to each other, single and twisted yarns comprising aramid monofilaments or aramid multifilaments, and the weft systems comprise, independently to each other and in an alternate sequence, single or twisted yarns of aramid monofilaments or single or twisted yarns of aramid multifilaments.

6. The fabric (1) according to claim 5, wherein the weft systems of the at least two single plies (2,3) comprise, independently to each other and in an alternate sequence, at least two different single and twisted yarns of aramid filaments.

7. The fabric (1) according to any preceding claim consisting of two separate single plies (2,3).

8. The fabric (1) according to claim 7, wherein the two separate single plies (2,3) comprise aramid fibers chosen from the group consisting of poly-m-phenylenisophtalamid, poly-p-phenylenterephtalamid and mixtures thereof.

9. The fabric (1) according to claim 8, wherein one of the two single plies is entirely made of poly-p-phenylenterephtalamid.

10. The fabric (1) according to any claim 7 to 9, wherein the two separate single plies (2,3) are made of the same material.

11. The fabric (1) according to any claim 7 to 9, wherein each separate single ply (2,3) is made of a material having a different dimensional thermal shrinkage.

12. The fabric (1) according to any claim 7 to 11, wherein the two separate single plies (2,3) are woven together in such a way that they cross each other at the predefined positions so that the same side (S1 or S2) of two adjacent pockets is alternately made of the two different separate single plies (2,3).

[13. The fabric (1) according to any claim 7 to 12, wherein the two separate single plies (2,3) are assembled together at predefined positions so as to build closed, adjacent pockets.]

[14.] <u>13.</u> The fabric (1) according to <u>any one of claims 1 to 12,</u> [claim 13,] wherein the closed, adjacent pockets are square shaped.

[15.] <u>14.</u> The fabric (1) according to any preceding claim, wherein each side of the pockets is between 5 and 50 mm.

[16.] 15. The fabric (1) according to claim 14 [15], wherein each side of the pockets is between 8 and 32 mm.

[17.] 16. The fabric (1) according to any preceding claim, having a specific weight between 100 g/m^2 and 900 g/m^2.

[18.] 17. The fabric (1) according to claim 16 [17], having a specific weight between 170 and 320 g/m^2.

[19.] 18. The fabric (1) according to any preceding claim, wherein filling yarns are positioned between the at least two separate single plies (2,3).

[20.] 19. Garment for protection against heat, flames and electric arc comprising a structure made of at least one layer of a fabric (1) according to any one of claims 1 to 18 [19].

[21.] 20. The garment according to claim 19 [20], comprising an internal layer, optionally an intermediate layer made of a breathing waterproof material, and an outer layer made of the fabric according to any claim 1 to 18 [19].

[22.] 21. The garment according to claim 19 or 20 [20 or 21], wherein the fabric (1) is made of two separate single plies (2,3), the former being positioned internally and the latter externally in the structure of the garment, the dimensional thermal shrinkage of the internally positioned separate single ply being lower than that of the externally positioned separate single ply.

[23.] 22. The garment according to claim 21 [22] wherein the two separate single plies comprise poly-p-phenylenterephtalamid, the internally positioned ply comprising at least the same amount of poly-p-phenylenterephtalamid as the externally positioned ply.

[24.] 23. The garment according to claim 22 [23] wherein the internally positioned ply is entirely made of poly-p-phenylenterephtalamid.